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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,306	11/24/2003	Steve J. Green	1-24771	7069

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MACMILLAN, SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA - FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604

EXAMINER

FERGUSON, MICHAEL P

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/721,306

Applicant(s)

GREEN ET AL.

Examiner

Michael P. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-15,18-24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-15,18-24 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 8-15, 18-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood, Jr. (US 5,061,110).

As to claim 1, Wood, Jr. discloses a ball joint comprising:

a seamless housing **26** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **32** and an inner chamber;

a ball stud **12** disposed in the chamber of the seamless housing and having an outer surface; and

a resilient member **14** fixedly attached to the outer surface of the ball stud (Figure 1).

As to claim 2, Wood, Jr. discloses a ball joint wherein the ball stud **12** has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of oscillation, wherein the ball stud is normally centered on the center of oscillation (Figure 1).

As to claim 3, Wood, Jr. discloses a ball joint wherein when a first force is applied to the ball stud **12**, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the

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predetermined angle is within the range of from about 0 degrees to about 40 degrees (Figure 1).

As to claim 4, Wood, Jr. discloses a ball joint wherein the resilient member **14** is formed of a material having a predetermined hardness to thereby apply a restoring force to maintain or return the ball stud **12** to the normally centered position (column 3 lines 6-23).

As to claim 5, Wood, Jr. discloses a ball joint wherein the seamless housing **26** includes a pair of openings **32,34** (Figure 1).

As to claim 8, Wood, Jr. discloses a ball joint wherein the ball stud **12** includes a ball portion **40** and a shaft **42** extending outwardly from the ball portion through the opening **32** (Figure 1).

As to claim 9, Wood, Jr. discloses a ball joint wherein the inner chamber is generally spherical shaped and an outer surface of the resilient member **14** is generally spherical shaped (Figure 1).

As to claim 10, Wood, Jr. discloses a ball joint wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **12** with an adhesive (column 3 lines 6-23).

As to claim 11, Wood, Jr. discloses a ball joint wherein an outer surface of the resilient member **14** frictionally engages the inner chamber of the seamless housing **26** (Figure 1).

As to claim 12, Wood, Jr. discloses a ball joint wherein the resilient member **14** is formed from one of rubber and neoprene (column 3 lines 6-23).

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As to claim 13, Wood, Jr. discloses a ball joint for a vehicle having steering wheel, the ball joint comprising:

a seamless housing **26** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **32** and an inner chamber;

a ball stud **12** disposed in the chamber of the seamless housing and having an outer surface; and

a resilient member **14** fixedly attached to the outer surface of the ball stud, wherein the ball stud has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of oscillation, wherein the ball stud is normally centered on the center of oscillation, and wherein the resilient ball member is formed of a material having a predetermined hardness to thereby apply a restoring force to maintain or restore the ball stud to the normally centered position (column 3 lines 6-23; Figure 1).

As to claim 14, Wood, Jr. discloses a ball joint wherein when a first force is applied to the ball stud **12** by turning of a vehicle steering wheel, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the predetermined angle is within the range of from about 0 degrees to about 40 degrees (column 2 lines 48-62; Figure 1).

As to claim 15, Wood, Jr. discloses a ball joint wherein the seamless housing **26** includes a pair of openings **32,34** (Figure 1).

As to claim 18, Wood, Jr. discloses a ball joint wherein the ball stud **12** includes a ball portion **40** and a shaft **42** extending outwardly from the ball portion through the opening **32** (Figure 1).

As to claim 19, Wood, Jr. discloses a ball joint wherein the inner chamber is generally spherical shaped and an outer surface of the resilient member **14** is generally spherical shaped (Figure 1).

As to claim 20, Wood, Jr. discloses a ball joint wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **12** with an adhesive (column 3 lines 6-23).

As to claim 21, Wood, Jr. discloses a ball joint wherein an outer surface of the resilient member **14** frictionally engages the inner chamber of the seamless housing **26** (Figure 1).

As to claim 22, Wood, Jr. discloses a ball joint wherein the resilient member **14** is formed from one of rubber and neoprene (column 3 lines 6-23).

As to claim 23, Wood, Jr. discloses a tie rod end adapted for use in a vehicle having a steering wheel for controlling steerable wheels, the tie rod end comprising:

- a seamless housing **26** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **32** and an inner chamber;

- a stem **24** extending outwardly from the seamless housing;

- a ball stud **12** disposed in the chamber of the seamless housing and having an outer surface, wherein the ball stud has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of

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oscillation, and wherein the ball stud is normally centered on the center of oscillation;  
and

a resilient member **14** fixedly attached to the outer surface of the ball stud, wherein the resilient ball member is formed of a material having a predetermined hardness to thereby apply a restoring force to maintain or restore the ball stud to the normally centered position, and wherein when a first force is applied to the ball stud by turning of a vehicle steering wheel, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the predetermined angle is within the range of from about 0 degrees to about 40 degrees (column 3 lines 6-23, column 2 lines 48-62; Figure 1).

As to claim 24, Wood, Jr. discloses a tie rod end wherein the seamless housing **26** includes a pair of openings **32,34** (Figure 1).

As to claim 26, Wood, Jr. discloses a tie rod end wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **12** with an adhesive (column 3 lines 6-23).

3. Claims 1-5, 8-15, 18-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Dresselhouse (US 5,163,769).

As to claim 1, Dresselhouse discloses a ball joint comprising:

a seamless housing **12** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **54** and an inner chamber;

a ball stud **10** disposed in the chamber of the seamless housing and having an outer surface; and

a resilient member **14** fixedly attached to the outer surface of the ball stud (Figure 1).

As to claim 2, Dresselhouse discloses a ball joint wherein the ball stud **10** has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of oscillation, wherein the ball stud is normally centered on the center of oscillation (Figure 1).

As to claim 3, Dresselhouse discloses a ball joint wherein when a first force is applied to the ball stud **10**, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the predetermined angle is within the range of from about 0 degrees to about 40 degrees (Figure 1).

As to claim 4, Dresselhouse discloses a ball joint wherein the resilient member **14** is formed of a material having a predetermined hardness to thereby apply a restoring force to maintain or return the ball stud **10** to the normally centered position (column 3 lines 23-30).

As to claim 5, Dresselhouse discloses a ball joint wherein the seamless housing **12** includes a pair of openings **54,56** (Figure 1).

As to claim 8, Dresselhouse discloses a ball joint wherein the ball stud **10** includes a ball portion **20** and a shaft **22** extending outwardly from the ball portion through the opening **54** (Figure 1).



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As to claim 9, Dresselhouse discloses a ball joint wherein the inner chamber is generally spherical shaped and an outer surface of the resilient member **14** is generally spherical shaped (Figure 1).

As to claim 10, Dresselhouse discloses a ball joint wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **10** with an adhesive (column 2 lines 18-32).

As to claim 11, Dresselhouse discloses a ball joint wherein an outer surface of the resilient member **14** frictionally engages the inner chamber of the seamless housing **12** (Figure 1).

As to claim 12, Dresselhouse discloses a ball joint wherein the resilient member **14** is formed from one of rubber and neoprene (column 2 lines 18-32).

As to claim 13, Dresselhouse discloses a ball joint for a vehicle having steering wheel, the ball joint comprising:

- a seamless housing **12** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **54** and an inner chamber;

- a ball stud **10** disposed in the chamber of the seamless housing and having an outer surface; and

- a resilient member **14** fixedly attached to the outer surface of the ball stud, wherein the ball stud has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of oscillation, wherein the ball stud is normally centered on the center of oscillation, and wherein the resilient ball member is formed of a material having a predetermined hardness to thereby apply

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a restoring force to maintain or restore the ball stud to the normally centered position (column 3 lines 23-30; Figure 1).

As to claim 14, Dresselhouse discloses a ball joint wherein when a first force is applied to the ball stud **10** by turning of a vehicle steering wheel, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the predetermined angle is within the range of from about 0 degrees to about 40 degrees (column 2 lines 10-13; Figure 1).

As to claim 15, Dresselhouse discloses a ball joint wherein the seamless housing **12** includes a pair of openings **54,56** (Figure 1).

As to claim 18, Dresselhouse discloses a ball joint wherein the ball stud **10** includes a ball portion **20** and a shaft **22** extending outwardly from the ball portion through the opening **54** (Figure 1).

As to claim 19, Dresselhouse discloses a ball joint wherein the inner chamber is generally spherical shaped and an outer surface of the resilient member **14** is generally spherical shaped (Figure 1).

As to claim 20, Dresselhouse discloses a ball joint wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **10** with an adhesive (column 2 lines 18-32).

As to claim 21, Dresselhouse discloses a ball joint wherein an outer surface of the resilient member **14** frictionally engages the inner chamber of the seamless housing **12** (Figure 1).

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As to claim 22, Dresselhouse discloses a ball joint wherein the resilient member **14** is formed from one of rubber and neoprene (column 2 lines 18-32).

As to claim 23, Dresselhouse discloses a tie rod end adapted for use in a vehicle having a steering wheel for controlling steerable wheels, the tie rod end comprising:

a seamless housing **12** (lacking the joining of two separate pieces; thus defining a seamless housing) having an opening **54** and an inner chamber;

a stem extending outwardly from the seamless housing;

a ball stud **10** disposed in the chamber of the seamless housing and having an outer surface, wherein the ball stud has a first axis and second axis transverse to the first axis, an intersection of the first axis and the second axis defining a center of oscillation, and wherein the ball stud is normally centered on the center of oscillation; and

a resilient member **14** fixedly attached to the outer surface of the ball stud, wherein the resilient ball member is formed of a material having a predetermined hardness to thereby apply a restoring force to maintain or restore the ball stud to the normally centered position, and wherein when a first force is applied to the ball stud by turning of a vehicle steering wheel, the ball stud is caused to oscillate about the center of oscillation within a predetermined angle relative to the normally centered position, and wherein the predetermined angle is within the range of from about 0 degrees to about 40 degrees (column 2 lines 10-13, column 3 lines 23-30; Figure 1).

As to claim 24, Dresselhouse discloses a tie rod end wherein the seamless housing **12** includes a pair of openings **54,56** (Figure 1).

As to claim 26, Dresselhouse discloses a tie rod end wherein the resilient member **14** is fixedly attached to the outer surface of the ball stud **10** with an adhesive (column 2 lines 18-32).

### ***Response to Arguments***

4. Applicant's arguments filed April 26, 2005 have been fully considered but they are not persuasive.

As to claims 1, 13, 23, Attorney argues that:

Wood, Jr. does not disclose a ball joint comprising a *seamless* housing.

Examiner disagrees. As to claims 1, 13 and 23, Wood, Jr. discloses a ball joint comprising a seamless housing **26** (lacking the joining of two separate pieces; thus defining a seamless housing; Figure 1).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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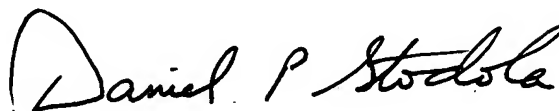
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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